

JP 56-79613A

Laid Open: June 30, 1981

Application No. 155138/1979

Filing Date: November 30, 1979

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Title of the Invention:

Whipped Cosmetics

Claim:

(1) A stable whipped cosmetic prepared by whipping a plastic material and a humectant with a gas at an overrun of 5~80%, said plastic material comprising a high-melting wax and an oil having a polarity.

Detailed Description of the Invention:

According to the present invention, at the time of incorporating a humectant such as water, propylene glycol, maltitol or glycerin into an oily cosmetic, the oily cosmetic and the humectant are whipped with a gas at an overrun of 5~80%, preferably 20~50% without using a surfactant. The present invention relates to the resulting stabilized and highly safe cosmetic.

Generally, for mixing an oily cosmetic comprising solid wax, oil and powder with a humectant not fully compatible therewith such as water, propylene glycol,

maltitol or glycerin, a surfactant is used for emulsification. This is a known technique. However, it is difficult to find out an emulsifier which is highly safe and stable for use as a cosmetic. This is because the kind of emulsifiers, as well as the kind and combinations of employable waxes and oils, are complicated. Besides, the kind of employable humectants is also extremely limited.

The present invention is based on the finding that a stable and highly safe cosmetic is prepared by whipping an oily cosmetic and any of various humectants without using an emulsifier.

More specifically, for obtaining a stable whipped cosmetic, one or more of high-melting waxes having a moderate polarity such as candelilla wax, carnauba wax, Japan wax and bees wax are used in an amount of 5~20% as the wax component. Oils which are liquid at room temperature and which are well compatible with waxes and have a moderate polarity are used. Most preferred examples are combinations of castor oil, camellia oil, safflower oil, glycerol-tri-2-ethylhexanoate, 2-heptylundecanoic acid monoglyceride, and polyoxypropylene polyoxylethylene pentaerythritol ether.

In preparing the cosmetic of the present invention, a composition comprising any of the above waxes and of the

oils is prepared and mixed under heating, followed by cooling until there is obtained a plastic material (a semi-solid plastic material of about 45~55°C) necessary for whipping, then the humectant described above is added 5~30%, and then whipping is performed using a gas (e.g., N₂, O₂, CO₂), preferably inert N₂ gas.

The amount of the gas used in whipping is 5~80%, preferably 20~50%. If the amount of the gas is below 5%, a creamy composition will not be obtained and commercialization is difficult. An amount of the gas above 80% will result in a state of bubbles, not affording a satisfactory effect of whipping. That is, a stable whipped product is not obtainable.

Hitherto, whipped margarine is well known as a product obtained through whipping. For example, in JP 53-113060A and JP 53-113061A it is described that a composition comprising an edible solid oil and an oil which is liquid at room temperature is emulsified together with water by use of an emulsifier, followed by whipping of the resulting emulsion. The whipped margarine or the like thus prepared is relatively stable at a temperature below room temperature, but in an environment of use as a cosmetic the shape retaining property is poor or there occurs oil off and thus it is difficult to fully guarantee the stability

of the system. In the present invention, a whipped cosmetic is to be obtained which is stable without oil off or shape collapse even in the temperature region of cosmetic use. In connection with preparing such a stable whipped cosmetic the present invention is based on the finding of a high-melting wax-oil combination capable of being whipped without using an emulsifier and consequent elimination of the drawbacks involved in whipped margarine and the like and finding of the whipped cosmetic which is a novel cosmetic.

As to the high-melting wax to be used, a mere high-melting wax, for example such a low polarity wax as a solid paraffin, is difficult to be whipped no matter what oil may be combined therewith. Carnauba wax, candelilla wax, Japan wax and bees wax, having water retaining property and emulsifying property, are most suitable.

The oil to be used must be one not only capable of well dissolving the above waxes but also having moderate emulsifying property and water retaining property. As examples of oils capable of being whipped for the above waxes there are mentioned the foregoing castor oil, camellia oil, safflower oil, glycerol-tri-2-ethylhexanoate, polyoxypropylene polyoxyethylene pentaerythritol ether, and 2-heptylundecanoic acid monoglyceride.

The whipped cosmetic prepared by incorporating a humectant according to a purpose into the system comprising any of the above waxes and of the above oils is superior in shape retaining property, free of oil off and can ensure a high stability in the ordinary environment of cosmetic use.

When the whipped cosmetic thus prepared in the present invention is observed through a microscope it is seen that both aqueous component and gas are present as fine particles of 5 to 30 μ in oil phase, constituting a system to be designated G, w/O type. That is, this system is a system with gas sealed into a W/O type plastic material.

Working examples of the present invention will be described below.

Example 1 Whipped Lip Glow

	wt%
Candelilla wax	5.0
Castor oil	83.89
Colorant	1.0
Glycerin	10.0
Perfume	0.1
Antioxidant	0.01

(Preparation)

Candelilla wax, castor oil and colorant were

dispersed uniformly by mixing and dissolving at 70°C, followed by cooling to 50°C. When the wax was precipitated into a semi-solid state, glycerin, perfume and antioxidant were added and stirred while nitrogen gas was introduced to effect whipping. At this time, overrun of the nitrogen gas was 30%.

The whipped lip glow prepared in this Example 1, in comparison with the conventional lip glow, had a very soft touch, was glossy when applied to a lip, and was very compatible with the lip.

It was checked for stability to find that there was neither change nor oil off even after one month storage at 37°C and 50°C.

Likewise, there was neither change nor oil off even after standing one month in a cycle test (two cycles/day).

Example 2 Whipped Lipstick

	<u>wt%</u>
Candelilla wax	10.0
Castor oil	74.89
Colorant	5.0
Maltitol	10.0
Perfume	0.1
Antioxidant	0.01

(Preparation)

A whipped lipstick was prepared in the same way as in Example 1, provided overrun of the nitrogen gas was 40%. The whipped lipstick prepared in this Example 2, in comparison with the conventional lipstick, had a very soft touch, was glossy when applied to a lip, and was very compatible with the lip.

It was checked for stability to find that there was neither change nor oil off even after one month storage at 37°C and 50°C.

Likewise, there was neither change nor oil off even after standing one month in a cycle test (two cycles/day).

Example 3 Foundation

	<u>wt%</u>
Candelilla wax	8.0
Carnauba wax	3.0
Pigment	10.0
Yellow titanium oxide	2.0
Red titanium oxide	5.0
White titanium oxide	3.0
Safflower oil	63.94
Talc	5.0
Ion exchange water	10.0
Vitamin E	0.01
Perfume	0.05

(Preparation)

Colorant was dispersed uniformly into candelilla wax, carnauba wax and safflower oil by mixing and dissolving at 70°C, followed by cooling to 55°C. When the waxes were precipitated into a semi-solid state, ion exchange water, perfume and vitamin E were added and stirred while nitrogen gas was introduced to effect whipping. At this time, overrun of the nitrogen gas 8%. The resulting foundation, in comparison with the conventional foundation, had a very soft touch to the skin, was superior in adhesion, and a coating thereof was water-resistant and difficult to collapse.

Example 4 Eye Shadow

	<u>wt%</u>
Bees wax	15.0
Carnauba wax	3.0
Octyl dodecyl ricinoleate	56.94
Ion exchange water	5.0
Glycerin	5.0

(Colorant)

White titanium oxide	5.0
Black iron oxide	1.0
Ultramarine	5.0
Pearl agent	5.0

Vitamin E	0.01
Perfume	0.05
(Preparation)	

Colorants were dispersed uniformly into bees wax, carnauba wax and octyl dodecyl ricinoleate by mixing and dissolving, followed by cooling to 45°C. Thereafter, ion exchange water, glycerin, vitamin E and perfume were added and homogenized. Whipping was performed using 1.5% of nitrogen gas. The resulting eye shadow, in comparison with the conventional eye shadow, could be applied softly to an eyelid and a coating thereof did not shine oily.

Example 5 Cleansing Cream

	<u>wt%</u>
Candelilla wax	7.0
Glycerol-tri-2-ethylhexanoate	30.0
Ion exchange water	20.0
Vitamin E	0.01
Perfume	0.1
Castor oil	42.99

(Preparation)

Candelilla wax, glycerol-tri-2-ethylhexanoate and castor oil were mixed under heating and held at 65°C, then ion exchange water, perfume and vitamin E were added

thereto, followed by thorough stirring and cooling to 45°C. Then, whipping was performed with nitrogen gas at an overrun of 60%. The resulting cleansing cream, in comparison with the conventional cleansing cream, was had a soft touch to the skin and mild detergency.

Example 6 Massage Cream

	<u>wt%</u>
Candelilla wax	7.0
Camellia oil	77.89
Ion exchange water	10.0
Glycerin	5.0
Antioxidant	0.01
Perfume	0.1

(Preparation)

Candelilla wax and camellia oil were dispersed uniformly by mixing and dissolving, then ion exchange water, glycerin, antioxidant and perfume were added thereto, followed by cooling to 50°C and standing. Then, whipping was performed with nitrogen gas at an overrun of 50%. The resulting massage cream, in comparison with the conventional massage cream, had a soft touch to the skin and exhibited an outstanding effect in its use for the skin.

Example 7 Night Cream

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wt%

Candelilla wax	7.0
Glycerol-tri-2-ethylhexanoate	30.0
Jojoba oil	10.0
Ion exchange water	10.0
Vitamin E	0.01
Perfume	0.1
Castor oil	42.89

(Preparation)

Candelilla wax, glycerol-tri-2-ethylhexanoate, jojoba oil and castor oil were dispersed uniformly by mixing and dissolving at 70°C, then ion exchange water, vitamin E and perfume were added thereto, followed by cooling to 47°C. Then, whipping was performed with nitrogen gas at an overrun of 45%. The resulting night cream, in comparison with the conventional night cream, was soft and exhibited an excellent moisture retaining property for the skin.

The present invention is also applicable to other cosmetics such as, for example, cream and emulsion cosmetics containing surfactants.